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encoding portion of the desired sequence to the N-terminus encoding portion of a nucleic acid sequence encoding an immunoglobulin constant domain sequence, however fusion to the N-terminus encoding portion of the desired NRG3 sequence is also possible. Typically, in such fusions the encoded chimeric polypeptide will retain at least functionally active hinge, CH2 and CH3 domains of the constant region of an immunoglobulin heavy chain. Fusions are also made to the C-terminus of the Fc portion of a constant domain, or immediately N-terminal to the CH1 of the heavy chain or the corresponding region of the light chain. The precise site at which the fusion is made is not critical; particular sites are well known and may be selected in order to optimize the biological activity, secretion or binding characteristics of the NRG3-immunoglobulin chimeras.--

In the Claims:

Please cancel claims 1-33 and 37-38.

Please amend claim 34 as follows:

34. (Amended) A method of detecting ErbB4 receptor in a sample, the method comprising:

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a) contacting a detectably labeled polypeptide with the sample, wherein the polypeptide comprises an EGF-like domain, the EGF-like domain comprising an amino acid sequence having at least 75% amino acid sequence identity to SEQ ID NO:4, and wherein the polypeptide binds to ErbB4 receptor but not ErbB2 receptor or ErbB3 receptor under experimentally comparable conditions; and

b) detecting binding of the polypeptide to a protein in the sample.